CLAIMS

1. Device (1) for the determination of the air content, the air separation behavior and the surface area foam formation of oils, in particular related to transmission oils, with an air-oil mixer (2) and a differential pressure sensor (3), that is characterized in that a conveyor system (4) is installed which transports the oil though pipe lines (5) of the air-oil mixer (2), a compressed air port (6) that provides for air in pipe lines (5) of the air-oil mixer (2), a Venturi pipe (9) that is installed in one of the pipe lines (5), and the differential pressure sensor (3) through at least two separate drill tubes in the conveyor system of the oil (7, 8) to the Venturi pipe (9), which measures differential oil pressures.

2. Device (1) in accordance with claim 1, characterized by having the compressed air port (6) controllable, and a mixer is installed for intensive turbulent mixing of the air with the oil in the pipe lines (5).

3. Device (1) in accordance with claim 1, characterized by having at least one separator (7) in the pipe lines (5).

4. Device (1) in accordance with claim 3, characterized by having the diameter of the separator (15) be approximately 20 to 30 mm.

5. Device (1) in accordance with claim 1, characterized by having that the air-oil mixer (2) partially manufactured of glass.

6. Device (1) in accordance with claim 1, characterized by having the air-oil mixer (2) equipped with a receptacle (14) for surface foam.

7. Device (1) in accordance with claim 1, characterized by having a temperature-regulating container, and the air-oil mixer (2) and the pipe lines connected to the Venturi pipe (9) are arranged within the temperature-regulating container.

8. Device (1) in accordance with claim 6, characterized by having a circulating thermostat installed in the temperature-regulating container.

9. Device (1) in accordance with claim 1, characterized by having an A/D converter map and a calculator and having the differential pressure sensor (3) connected with the A/D converter map and the calculator.

10. Device (1) in accordance with claim 1, characterized by having the conveyor system designed as a gear pump.

11. Procedure for the determination of the air content for variable volume flows with the device (1) according to claim 1, characterized by

- Filling up of the oil being tested by means of the receptacle (14) in the air-oil mixer (2),
- Switching on a water jet pump, so that oil is sucked into hoses (12, 13) above a measuring cell of the differential pressure sensor (3),
- Prevention of the back flow of the oil into the hoses (12, 13) above the measuring cell,
- Switching on the conveyor system (4),
- Filling up of more of the oil being tested until the pipe lines (5) of the air-oil mixer (2) are full without bubbles developing,
- Adjustment of the air supply and
- Setting of the conveyor system (4) at maximum flow,
- Transfer of the oil being tested and measurement of all regulating volume flows at respective constant volume flows.

12. Procedure for the determination of the air separation behavior and the surface foam with the device (1) according to claim 1, characterized by

- Filling up of the oil being tested through a filler funnel (14) in the air-oil mixer (2),
- Switching on a water jet pump so that oil is sucked into hoses (12, 13) above a measuring cell of the differential pressure sensor (3),
- Prevention of the back flow of the oil into the hoses (12, 13) above the measuring cell,
- Switching on the conveyor system (4)
- Filling up of more of the oil being tested, until the pipe lines (5) of the air-oil mixer (2) are full without bubbles developing,
- Setting of the conveyor system (4) at a specific flow,
- Measurement of the differential pressures, stopping the air supply, measurement of the surface foam in ml, time measurement and measurement of the respective differential pressures at regular intervals.

13. Procedure for the determination of the air separation behavior and the surface foam with the device (1) according to claim 1, characterized by

- Filling up of the oil being tested by the receptacle (14) in the air-oil mixer (2),

- Switching on a water jet pump so that oil is sucked into hoses (12, 13) above a measuring cell of the differential pressure sensor (3),
- Prevention of the back flow of the oil into the hoses (12, 13) above the measuring cell,
- Switching on the conveyor system (4),
- Filling up of more oil being tested, until the pipe lines (5) of the air-oil mixer (2) are full without bubbles developing,
- Adjusting the air supply,
- Setting of the conveyor system (4) at a specific flow,
- Measurement of the differential pressures, stopping the air supply, measurement of the surface foam in ml, time measurement and measurement of the differential pressures at regular intervals.

14. Procedure according to claim 13, characterized by

- Setting the temperature of the oil being tested by means of a thermostat in the container.